REMARKS

Upon entry of this Response, claims 1-2 and 4-21 remain pending in the present patent application.

1. RESPONSE TO OBJECTIONS OF DRAWINGS

The drawings have been objected to under 37 CFR 1.83(a). The Office Action states that limitations such as "comparing the pseudo-signature with software trace," "a pseudo-signature generation element operative to produce a software trace . . . whereby trace may be conveyed as a virus pseudo-signature," and "a virus scanning engine and a signature table containing a plurality of virus signature," must be shown. Page 2.

Applicants notes that 37 CFR 1.83(a) states that "the drawing in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box)." (Emphasis added). Accordingly, limitations such as "comparing the pseudo-signature with software trace," "a pseudo-signature generation element operative to produce a software trace . . . whereby trace may be conveyed as a virus pseudo-signature," and "a virus scanning engine and a signature table containing a plurality of virus signature," are represented in FIG. 1 by the labeled rectangular boxes and are also described in accompanying text in the specification.

For example, claim 12, as originally presented, recites "detecting, in a virus-protected computer system, the presence of a non-virus component comprising receiving a virus pseudo-signature associated with a software trace of the non-virus component, and comparing the pseudo-signature with software traces disposed within the system's memory." These detecting and comparing operations are represented by the rectangular boxes 15-16 which are labeled with "Receive new virus signatures and pseudo-signatures and code to allow a/v s/w to recognize pseudo signuature" and "a/v s/w detects s/w trace of h/w component." Additional details are provided in the specification.

Likewise, claim 14 recites "Apparatus for detecting, in a virus-protected computer system, a non-virus component, comprising a pseudo-signature generation element operative to produce a software trace of the component, and an antivirus support source whereby the software trace may be conveyed, as a virus pseudo-signature, to the computer system." Features such as the producing of a software trace and conveying of a virus pseudo-signature are represented by the rectangular boxes 11-12 of FIG. 1 which are labeled to "Identify s/w trace of h/w component on test system" and "Convey s/w trace to a/v update website as pseudo-signature." The accompany text on page 4 of the application also provides additional details: "[A]s will be understood by those well-versed in the relevant art, installation and use of a computer hardware device gives rise to a software trace of the device concerned in a software area of the computer system: as an example, certain Hard Disk Drives (HDDs) are detected by a computer system's Operating System with it thus being possible to identify, by analysis/interrogation of an appropriate area of the Operating System, the manufacturer and serial number (for example) of the device concerned. Although it may well be necessary to conduct the exercise many times, to take account of differing Operating Systems and infrastructure platforms, step 11 shows that an identification occurs of an appropriate software trace on a test system. Thus, an analysis is made of a test system so that the software trace left by the hardware product in issue can be identified." Further, the application describes that any element of a computer system that has a software trace resident on the system concerned can be identified in this manner." Page 6.

Also, claim 16, as originally presented, recites an "antivirus software element having a virus scanning engine and a signature table containing a plurality of virus signatures, the element also having a distinguishing capability whereby the element responds differently to the detection of virus signatures and virus pseudo-signatures, the latter being indicative of the presence of a non-virus component in a host computer system." The application clearly explains that "whilst it may be appropriate to effect a modest upgrade to the antivirus application, to allow it to identify and deal appropriately with pseudo-signatures, this can easily be achieved in parallel, for example, with existing update procedures that are used to amend and upgrade key aspects of antivirus applications such as the virus-scanning engines, for example.

Accordingly, the rectangular block 12 identifies an update step for an antivirus support system, which represents the aforementioned features for one embodiment.

Therefore, Applicants respectfully submit that the drawing includes features necessary for understanding the pending claims. For at least these reasons, withdrawal of the objection to the drawings is requested.

2.   RESPONSE TO OBJECTION OF THE TITLE

The title of the invention has been objected to as failing to be clearly indicative of the invention to which the claims are directed. Accordingly, the title has been amended to overcome the objection, and Applicants respectfully request withdrawal of the objection.

3.   RESPONSE TO OBJECTION OF THE ABSTRACT

The abstract of the invention has been objected to as failing to be in the correct format. Accordingly, the abstract has been amended to overcome the objection, and Applicants respectfully request withdrawal of the objection.

4.   RESPONSE TO OBJECTION OF THE CLAIMS

Claim 20 has been objected to for being of improper form. Accordingly, the claim has been amended to overcome the objection, and Applicants respectfully request withdrawal of the objection.

5.   RESPONSE TO REJECTION OF CLAIMS UNDER 35 U.S.C. § 112

Claims 1-20 have been rejected under 35 U.S.C. § 112 for allegedly failing to comply with the enablement requirement. In particular, the Office Action states that a "virus pseudo-signature" and "software trace" are not shown in the specification or the drawings. Applicants respectfully disagree.

For example, the application clearly describes that "the term 'virus pseudo-signature' is intended to refer to a signature that has the appearance and/or traits of a genuine virus signature but which, in fact, is not indicative of the presence of a virus but rather of a non-virus component. The term 'pseudo' is thus intended to indicate that whilst the entity appears to be a virus signature, it is in fact indicative of the presence of a non-virus entity." Page 2.

The application further states: "As will be understood by those well-versed in the relevant art, installation and use of a computer hardware device gives rise to a software trace of the device concerned in a software area of the computer system: as an example, certain Hard Disk Drives (HDDs) are detected by a computer system's Operating System with it thus being possible to identify, by analysis/interrogation of an appropriate area of the Operating System, the manufacturer and serial number (for example) of the device concerned." Page 4. "Although it may well be necessary to conduct the exercise many times, to take account of differing Operating Systems and infrastructure platforms, step 11 shows that an identification occurs of an appropriate software trace on a test system. Thus, an analysis is made of a test system so that the software trace left by the hardware product in issue can be identified." Page 4.

Accordingly, the application provides an illustration of a software trace and how such a trace may be identified. After the trace is identified, it may be provided to an antivirus update source in the guise of a virus signature or a "virus pseudo signature." In particular, the application states that "the thus-identified software trace is conveyed to an antivirus update source such as a website, whereby subscribers to the antivirus update service will be made aware of the software trace when a subsequent connection is made to the update site. By this mechanism, the software trace is passed to the update source in the guise of a virus pseudo-signature, for later detection by an end-user's antivirus application." Page 4.

Therefore, Applicants submit that the application clearly describes and enables the claimed subject matter. Withdrawal of the objection is respectfully requested.

6.   **RESPONSE TO REJECTION OF CLAIMS UNDER 35 U.S.C. § 101**

Claims 1-11 and 15-17 have been rejected under 35 U.S.C. § 101 for allegedly being directed to non-statutory subject matter. The Office Action alleges that claim 1-11 do not produce a practical or useful result and that claims 15-17 are directed to a software program. Applicants respectfully disagree.

Regarding claims 1-11, claim 1 recites "conveying the trace to the computer system as a virus pseudo-signature to allow detection of the component by the system's antivirus software" and claim 11 recites "conveying the trace towards an

antivirus update source whereby the software trace may be passed, as a virus pseudo-signature, to the first computer system."

Applicants reference the Computer Guidelines http://www.uspto.gov/web/offices/pac/compexam/interim_guide_subj_matter_ eligibility.html) which states that "merely determining or calculating a price may not be held to be a tangible result, instead reasonably being interpreted as just a thought or a computation within a processor; however, calculating a price of an item to sell and then conveying the calculated price to a potential customer would be a tangible result." *See* MPEP 2106 and *State Street Bank & Trust Co. v. Signature Financial Group*, 149 F.3d 1368 (Fed. Cir. Jul. 23, 1998) ("Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result'-a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.")

Similarly, Applicants submit that claims 1 and 11 are also directed to statutory subject matter for at least the reason that the claim conveys the trace to the computer system as a virus pseudo-signature to allow detection of the component by the system's antivirus software which is an example of conveyances of information or signals that produce tangible results. Therefore, withdrawal of the rejection of claims 1-11 is respectfully requested.

Regarding claims 15-17, the claims as presently presented define structural and functional interrelationships with a computer system which permit the computer system's functionality to be realized and is thus, statutory. Therefore, withdrawal of the rejection of claims 15-17 is respectfully requested.

7.   **RESPONSE TO REJECTION OF CLAIMS UNDER 35 U.S.C. § 102**

Claims 1-20 have been rejected under 35 U.S.C. § 102(b) as allegedly being unpatentable over *Hypponen* (U.S. Patent No. 6,577,920).

a.   Claim 1

As provided in independent claim 1, Applicants claim:

A method of detecting a non-virus component in a virus-protected computer system having antivirus software comprising:

identifying a software trace of the non-virus component; and

conveying the trace to the computer system as a virus pseudo-signature to allow detection of the non-virus component by the system's antivirus software,

wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the computer system.

(Emphasis added).

Applicants respectfully submit that independent claim 1 is allowable for at least the reason that *Hypponen* does not disclose, teach, or suggest at least "identifying a software trace of the non-virus component; and conveying the trace to the computer system as a virus pseudo-signature to allow detection of the non-virus component by the system's antivirus software, wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the computer system," as recited and emphasized above in claim 1.

Hypponen describes an anti-virus software system that reports on a macro that is known to have a virus or is not known to the system and could therefore contain an unknown virus. *Hypponen* does not disclose identifying a software trace for a non-virus component, conveying the trace to a computer system to allow detection by the system's antivirus software, or does not disclose that such a component is a hardware device. For at least these reasons, *Hypponen* does not disclose all of the features of claim 1.

As a result, claim 1 is not anticipated by *Hypponen*. Therefore, withdrawal of the rejection of claim 1 is respectfully requested.

b.   Claims 2-10, 17, and 19-20

Claim 1 is allowable over the cited art of record for at least the reasons given above. Since claims 2, 4-10, 17, and 19-20 depend from claim 1 and recite additional features, claims 2, 4-10, 17, and 19-20 are allowable as a matter of law over the cited art of record.

Claim 3 is canceled without prejudice, waiver, or disclaimer, and therefore, the rejection to this claim is rendered moot. Applicants take this action merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other

claims in the present application. Applicants reserve the right to pursue the subject matter of the canceled claim in a continuing application, if Applicants so choose, and do not intend to dedicate any of the canceled subject matter to the public.

    c.   <u>Claim 11</u>

As provided in independent claim 11, Applicants claim:

> A method of facilitating the detection of a non-virus component in a first virus-protected computer system comprising:
>   ***identifying, on a second computer system, a software trace of the non-virus component, and***
>   ***conveying the trace towards an antivirus update source,***
>   ***whereby the software trace may be passed, as a virus pseudo-signature, to the first computer system,***
>   ***wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the first computer system***.

(Emphasis added).

Applicants respectfully submit that independent claim 11 is allowable for at least the reason that *Hypponen* does not disclose, teach, or suggest at least "identifying, on a second computer system, a software trace of the non-virus component, and conveying the trace towards an antivirus update source, whereby the software trace may be passed, as a virus pseudo-signature, to the first computer system, wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the first computer system," as recited and emphasized above.

Hypponen describes an anti-virus software system that reports on a macro that is known to have a virus or is not known to the system and could therefore contain an unknown virus. *Hypponen* does not disclose identifying a software trace for a non-virus component and conveying the trace to an antivirus update source, whereby the software trace may be passed, as a virus pseudo-signature, to the first computer system, wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the first computer system. For at least these reasons, *Hypponen* does not disclose all of the features of claim 11.

As a result, claim 11 is not anticipated by *Hypponen*. Therefore, withdrawal of the rejection of claim 11 is respectfully requested.

    d.   <u>Claim 12</u>

As provided in independent claim 12, Applicants claim:

> A method of detecting, in a virus-protected computer system, the presence of a non-virus component comprising:
> **receiving a virus pseudo-signature associated with a software trace of the non-virus component, and**
> **comparing the pseudo-signature with software traces disposed within the system's memory,**
> **wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the computer system.**

(Emphasis added).

Applicants respectfully submit that independent claim 12 is allowable for at least the reason that *Hypponen* does not disclose, teach, or suggest at least "receiving a virus pseudo-signature associated with a software trace of the non-virus component, and comparing the pseudo-signature with software traces disposed within the system's memory, wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the computer system," as recited and emphasized above.

Hypponen describes an anti-virus software system that reports on a macro that is known to have a virus or is not known to the system and could therefore contain an unknown virus. *Hypponen* does not disclose "receiving a virus pseudo-signature associated with a software trace of the non-virus component, and comparing the pseudo-signature with software traces disposed within the system's memory, wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the computer system," as recited in claim 12.

As a result, claim 12 is not anticipated by *Hypponen*. Therefore, withdrawal of the rejection of claim 12 is respectfully requested.

e. Claim 13

Claim 12 is allowable over the cited art of record for at least the reasons given above. Since claim 13 depends from claim 12 and recites additional features, claim 13 is allowable as a matter of law over the cited art of record.

f. Claim 14

As provided in independent claim 14, Applicants claim:

> Apparatus for detecting, in a virus-protected computer system, a non-virus component, comprising:
> *a pseudo-signature generation element operative to produce a software trace of the non-virus component,* and
> an antivirus support source,
> *whereby the software trace may be conveyed, as a virus pseudo-signature, to the computer system,*
> *wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the computer system.*

(Emphasis added).

Applicants respectfully submit that independent claim 14 is allowable for at least the reason that *Hypponen* does not disclose, teach, or suggest at least "a pseudo-signature generation element operative to produce a software trace of the non-virus component . . . whereby the software trace may be conveyed, as a virus pseudo-signature, to the computer system, wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the computer system," as recited and emphasized above.

Hypponen describes an anti-virus software system that reports on a macro that is known to have a virus or is not known to the system and could therefore contain an unknown virus. As such, *Hypponen* does not disclose at least "a pseudo-signature generation element operative to produce a software trace of the non-virus component . . . whereby the software trace may be conveyed, as a virus pseudo-signature, to the computer system, wherein the component is a hardware device and wherein the software trace is indicative of the presence of the hardware device in the computer system," as recited in claim 14.

As a result, claim 14 is not anticipated by *Hypponen*. Therefore, withdrawal of the rejection of claim 14 is respectfully requested.

g.   Claim 15

As provided in independent claim 15, Applicants claim:

> An antivirus update system comprising:
> *a reception element operative to receive software traces indicative of the presence, in a computer system, of a non-virus component, and*
> *a dispatch element operative to convey virus signatures to a plurality of computer systems in addition to a pseudo-signature produced in response to the received software trace,*
> *wherein the component is a hardware device and wherein the software trace is indicative of the presence of the device in the computer system.*

(Emphasis added).

Applicants respectfully submit that independent claim 15 is allowable for at least the reason that *Hypponen* does not disclose, teach, or suggest at least "a reception element operative to receive software traces indicative of the presence, in a computer system, of a non-virus component, and a dispatch element operative to convey virus signatures to a plurality of computer systems in addition to a pseudo-signature produced in response to the received software trace, wherein the component is a hardware device and wherein the software trace is indicative of the presence of the device in the computer system," as recited and emphasized above.

Hypponen describes an anti-virus software system that reports on a macro that is known to have a virus or is not known to the system and could therefore contain an unknown virus. As such, *Hypponen* does not disclose at least "a reception element operative to receive software traces indicative of the presence, in a computer system, of a non-virus component, and a dispatch element operative to convey virus signatures to a plurality of computer systems in addition to a pseudo-signature produced in response to the received software trace, wherein the component is a hardware device and wherein the software trace is indicative of the presence of the device in the computer system," as recited in claim 15.

As a result, claim 15 is not anticipated by *Hypponen*. Therefore, withdrawal of the rejection of claim 15 is respectfully requested.

h.   Claim 16

Claim 15 is allowable over the cited art of record for at least the reasons given above. Since claim 16 depends from claim 15 and recites additional features, claim 16 is allowable as a matter of law over the cited art of record.

i.   Claim 18

As provided in independent claim 18, Applicants claim:

> A method of detecting a non-virus component in a virus-protected computer system having antivirus software comprising:
> *identifying a software trace indicative of the presence of a hardware device in the computer system; and*
> *conveying the trace to the computer system as a virus pseudo-signature to allow detection of the device by the system's antivirus software,*
> *wherein the trace is conveyed to the computer system as part of an update procedure,*
> *whereby additional virus signatures or scanning engines may also be passed to the antivirus software.*

(Emphasis added).

Applicants respectfully submit that independent claim 18 is allowable for at least the reason that *Hypponen* does not disclose, teach, or suggest at least "identifying a software trace indicative of the presence of a hardware device in the computer system; and conveying the trace to the computer system as a virus pseudo-signature to allow detection of the device by the system's antivirus software, wherein the trace is conveyed to the computer system as part of an update procedure, whereby additional virus signatures or scanning engines may also be passed to the antivirus software," as recited and emphasized above.

Hypponen describes an anti-virus software system that reports on a macro that is known to have a virus or is not known to the system and could therefore contain an unknown virus. As such, *Hypponen* does not disclose at least "identifying a software trace indicative of the presence of a hardware device in the computer system; and conveying the trace to the computer system as a virus pseudo-signature to allow detection of the device by the system's antivirus software, wherein the trace is conveyed to the computer system as part of an update procedure,

whereby additional virus signatures or scanning engines may also be passed to the antivirus software," as recited in claim 18.

As a result, claim 18 is not anticipated by *Hypponen*. Therefore, withdrawal of the rejection of claim 18 is respectfully requested.

8.   NEWLY ADDED CLAIM

Claim 21 has been newly added to further define and/or clarify the scope of aspects of the present disclosure. For at least many of the reasons stated above, claim 21 is patentable over the cited art.

CONCLUSION

For at least the reasons provided above, Applicants respectfully submit that all rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

Charles W. Griggers
Reg. No. 47,283